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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,797	08/03/2004	Daniel W. Jones	34926	6746
23589	7590	01/05/2006		
HOVEY WILLIAMS LLP 2405 GRAND BLVD., SUITE 400 KANSAS CITY, MO 64108			EXAMINER TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/710,797

Applicant(s)

JONES ET AL.

Examiner

Thai-Ba Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 30-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-27, 30 and 32-69 is/are allowed.
- 6) ☒ Claim(s) 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/09/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Amendment filed on November 17, 2005. Applicant's cooperation in correcting the informalities in the specification and abstract is appreciated. Applicant's cooperation in amending the claims to overcome the indefinite claim language is also appreciated.

Claims 1-3, 5, 10, 13, 17, 18, 20, 23-25, 27, 31, 37, 39, 41, 44, 47-49, 51, 56, 62-64, 66, and 69 were amended; and claims 28 and 29 were cancelled. Upon the reconsideration, the indicated allowable subject matter of claim 31 has been withdrawn. A new Non-Final rejection set forth below.

Claim Objections

Claims 5 and 30 are objected to because of the following informalities:

- In claim 5, line 1, the recitation of "***The system as claimed in claim 4***" has been deleted, because claim 5 has been amended as an independent claim.
- In claim 30, line 1, "***claim 28***" after "***The method as claimed in***" has been replaced by – **claim 24** --.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchi (Patent Number 2,296,268), in view of Poole (Patent Number 4,086,019).

Buchi discloses a method of supplying compressed air compressed induction fluid to an intake manifold of an internal combustion engine (7) of a powered land vehicle, wherein the engine includes a rotatable crankshaft and , when off idle, operates at variable rpm over a rev range, said method comprising:

driving a first supercharger (13) off of the crankshaft (10) to compress induction fluid (See Figure 3),

driving a second compressor (15) (See Figure 3),

operating the superchargers at least partially in series so that at least some induction fluid that is compressed by the first supercharger (13) is further compressed by the second supercharger (15), and then supplied to the intake manifold (20) of the engine (See Figure 3);

operating the superchargers at least partially in parallel so that at least a portion of induction fluid that is compressed by the first supercharger (13) and at least another portion of induction fluid is compressed by the second supercharger (15), and the at least a portion and at least another portion of compressed induction fluid are supplied to the intake manifold (20) of the engine without passing through the other supercharger (See Figure 3).

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However, Buchi fails to disclose a second supercharger drivingly connectable to the crankshaft and operable to compress induction fluid; an intermeshing common gear; and an endless element.

Poole teaches that it is conventional in the transmission means for the art of centrifugal compressors, to utilize a second supercharger (15, 16) drivingly connectable to the crankshaft (21, 27); a drive assembly (26, 45) operable to drivingly connect the superchargers to the crankshaft (21, 27) so that each of the superchargers (15, 16) operates continuously with rotation of the crankshaft (See Figure 1a); an intermeshing common gear (45) between the compressors (15, 16) (See Figure 1a); and an endless element (27) around at least a portion of the power source (21) and driving the common gear (45) at least in part with the endless element (See Figure 1a; Column 6, lines 29-60).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a second supercharger drivingly connectable to the power source and operable to compress induction fluid for the engine; an intermeshing common gear; and an endless element, as taught by Poole, to improve the control of both turbochargers/superchargers/compressors in the Buchi device.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: The prior art fails to disclose or renders obvious the claimed combination of a multiphase centrifugal supercharger air induction system and a method of supplying compressed induction

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fluid comprising a first centrifugal supercharger, a second centrifugal supercharger, and an induction fluid flow control assembly fluidly inter-communicating so that the superchargers cooperatively provide fluid to the engine in a number of operating phases, including a first phase in which at least some induction fluid from the first outlet is supplied to the second inlet and a second phase in which at least some induction fluid from the first and second outlets is supplied to the intake manifold without passing through the other supercharger, including:

“ Regarding claims 1, 5, 24, 47 and 51:

said first and second superchargers being drivingly connectable to the crankshaft wherein both of the impellers are rotated continuously by the crankshaft and at a substantially constant relative speed to the crankshaft during the operating phases of the superchargers.

Regarding claims 10, 25, and 56:

all the limitations in claim 1 and further including:

said relative rotational speed being between about sixty and about seventy percent of maximum rotation speed of the crankshaft with the induction fluid flow control assembly being configured to switch operation of the superchargers from the series phase to the first transitional phase in response to a predetermined condition.

Regarding claims 13 and 27:

all the limitations in claim 1 and further including:

said relative rotational speed being between about eighty percent of maximum rotation speed of the crankshaft with the induction fluid flow control assembly being configured to switch operation of the superchargers from the second transitional phase to the parallel phase in response to a predetermined condition.

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Regarding claims 17, 39, and 63:

all the limitations in claim 1 and further including:

said induction fluid flow control assembly including an additional passageway in fluid communication with said first outlet and operable to be in fluid communication with the intake, and further including a second valve disposed along said additional passageway downstream of said first mentioned passageway for controlling the flow of induction fluid through said additional passageway."

Conclusion

The IDS (PTO-1449) filed on November 09, 2002 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Czechowski et al. (Patent Number 6,488,467 B2) integrally cast volute style scroll and gearbox for multi-stage compressors.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
December 30, 2005


Thai-Ba Trieu
Primary Examiner
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